

# INSTRUCTIONS AND PARTS LIST FOR SETTING UP AND OPERATING


*Mark of Superiority*
**Millers Falls®**

## "Langdon Acme" Mitre Box

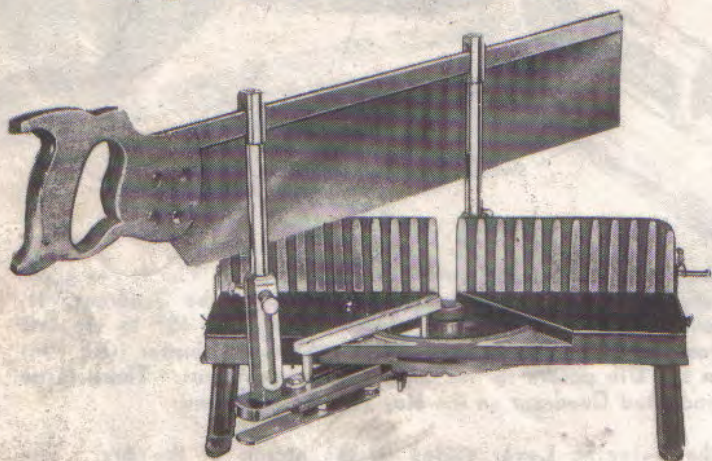


Figure 1

### "LANGDON ACME" MITRE BOX

No. 74 - 28 x 5 Saw  
No. 75 - 30 x 5 Saw  
No. 76 - 30 x 6 Saw

The "Langdon Acme" Mitre Box (Fig. 1) is the finest machine made for cutting Angles in wood. It has a rugged one piece cast iron Bed and Backs. Saw Guides, Swinging Lever and Legs are of steel. Three "Olive" Bronze Bearings are provided in each Guide for smooth and easier Saw travel.

## "Langdon" Mitre Box

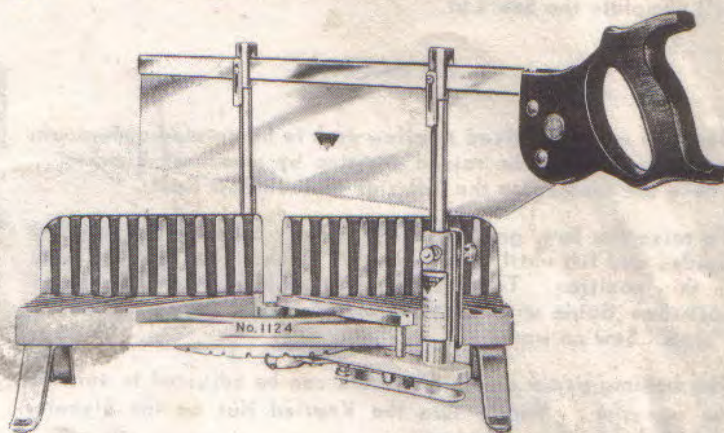


Figure 2

### "LANGDON" MITRE BOX

No. 1124 - 24 x 4 Saw

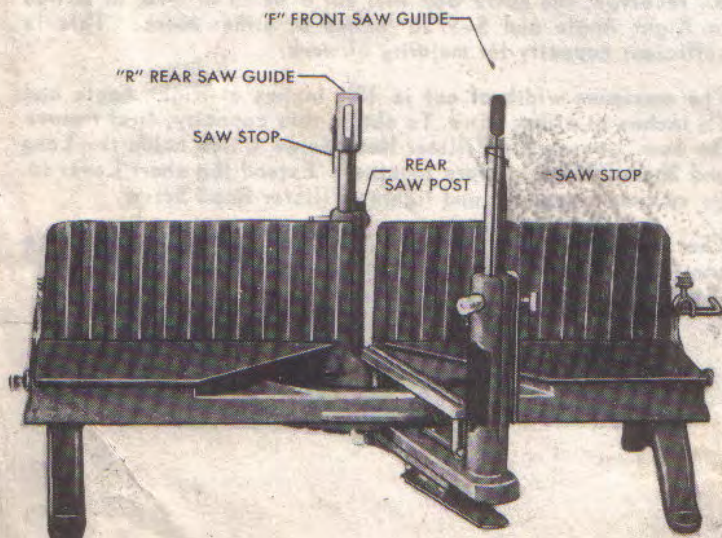
The "Langdon" Mitre Box (Fig. 2) is a fine machine for cutting angles in wood. It has a rugged one piece cast iron bed and Backs. Saw Guide, Swinging Lever, and Legs are of Steel. Adjustable Swinging Lever, End Brackets, Length Gage and graduated Quadrant are not provided on this Mitre Box, consequently operations as shown on page 2 and 3 in this instruction booklet cannot be performed.

The capacity of this Mitre Box is 8¾ inches at Right Angles and a full 6 inches at either Mitre.

### — IMPORTANT —

#### Read This Booklet Carefully!

You have purchased a valuable piece of equipment. With the proper care and use it will give you many years of trouble-free and dependable service. **SPEND THE 20 MINUTES REQUIRED TO READ THESE INSTRUCTIONS.** Learn how to assemble it and how to operate it properly before you saw your first piece of wood.



### SAW GUIDES

Insert Saw Guides in the proper Saw Posts. The Saw Guide marked "F" should be inserted in the Front Post also marked "F", nearest the operator. The Saw Guide marked "R" should be inserted in the Rear Post marked "R", farthest from the operator.

Make sure the Bearing Surfaces are clean by working the Guides up and down inside the Posts several times.

Insert the Saw carefully through the front and rear Saw Guides. Make sure the Saw Teeth do not contact any part of the Mitre Box. The Saw Teeth should clear the bottom of the groove in the Gib with the proper clearance.



## SAW STOPS

It is necessary for the owner to set the adjustable Saw Stops on Box. This is also required when Saw is resharpened. Resharpening diminishes the Saw height.

To adjust; loosen the saw Stop Screws. Lower the Saw carefully as far as it will go. Set Saw Stops so that Saw clears bottom of groove in Gib, and is still below the surface of Bottom Plates. Tighten Saw Stop Screws. With proper adjustment the Saw Teeth will not touch the bottom of the groove but will complete the Saw Cut.

## ELEVATORS

The Saw must be raised to allow work to be entered underneath it. It is held in the raised position by means of Elevators. These are located on the left side of each Saw Post.

To raise the Saw, grasp the Saw midway between the two Saw Guides and lift until both Elevators click. The Saw will stay in this position. To drop the Saw, push down on the top of each Saw Guide with the palm of the hand. Be careful not to "slam" Saw on work.

The holding power of the Elevators can be adjusted to suit the operator. Merely turn the Knurled Nut on the Elevator provided for this purpose.

## DEPTH GAGES

Depth Gages are mounted by means of Knurled Screws on the right side of each Saw Post. They are used to limit the depth of Saw cut.

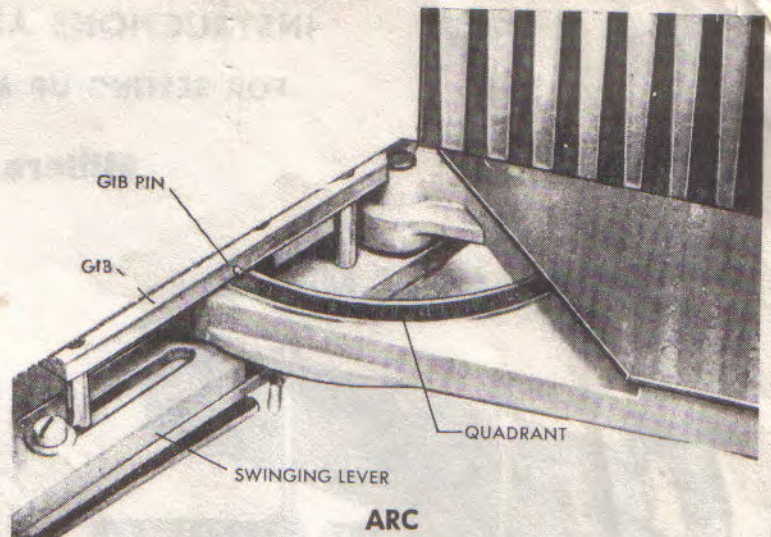
The Saw must be in the raised position to adjust the Depth Gages. Insert a piece of wood equal in thickness to the height the Saw is to stop above the Bottom Plates. Gently lower the Saw on the wood. Raise Depth Gages up to the Shoulder of each Saw Guide, and tighten Knurled Screws. Raise the Saw and remove wood. The Saw should now cut to the depth desired.

## SWINGING LEVER

The Saw Guides carrying the Saw, and the Posts in which the Saw Guides operate, are all part of the Swinging Lever. From the Right Angle (or Square) this Lever swings horizontally 45° right (right Mitre) and 45° left (left Mitre).

The Lever Clamp must be loose to swing the Lever. This is accomplished by turning the Clamp clockwise as far as it will rotate.

To set the Saw at a desired Angle, pull the Locking Lever up with the forefinger while the thumb is on the Lever. This disengages or prevents engagement of the Locking Pin (Index pin) with Notches in the Arc. The Swinging Lever will traverse freely only if locking Pin is disengaged.



The Arc is the curved component of the Bed. The top is graduated in one degree divisions and is called the Quadrant. It covers a total of 90° (45° to the right, and 45° to the left from the Right Angle or Square). A small Pointer (Gib Pin) on the Gib points to the angle the Saw will cut. There is no graduated Quadrant on the No. 1124 Mitre Boxes.

The Swinging Lever slides on the bottom of the Arc. The Notches are for rapid setting of frequently used angles. Notches are at 0° (Right Angle) 9°, 22½°, 30°, and 45° (Mitre) right or left.

To use the Automatic Index, merely release the Locking Lever at a Notch. The Locking Pin will drop into the Notch.

## LEVER CLAMP

The Swinging Lever is locked to the Bed by means of a Lever Clamp. Locking is accomplished by rotating the Lever Clamp in a counterclockwise direction.

The Swinging Lever should be locked to the Bed during all sawing operations. This also applies to quick angle adjustments where the Locking Pin is engaged with a Notch in the Arc. If Lever is not locked, the angle setting is apt to be changed by the work accidentally "bumping" into Saw or Post. BE SAFE, assure a true and accurate cut.

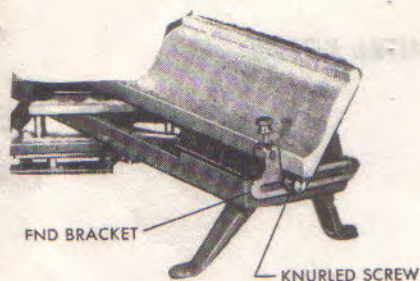
## SLIDING LEVER

As received, the Mitre Box will cut a width of 8-5/16 inches at Right Angle and 5-9/16 inches at either Mitre. This is sufficient capacity for majority of work.

The maximum width of cut is 10½ inches at Right Angle and 7¼ inches at either Mitre. To obtain this capacity, first remove the Saw. Loosen the Filister Head Screw which holds the Long and Short (Sliding) levers together. Extend the short Lever to its maximum position and tighten Filister Head Screw.

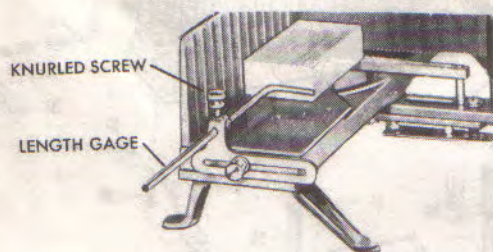
The Swinging Lever on the No. 1124 Mitre Box is made in one piece without adjustment for changes of capacity.





### END BRACKETS

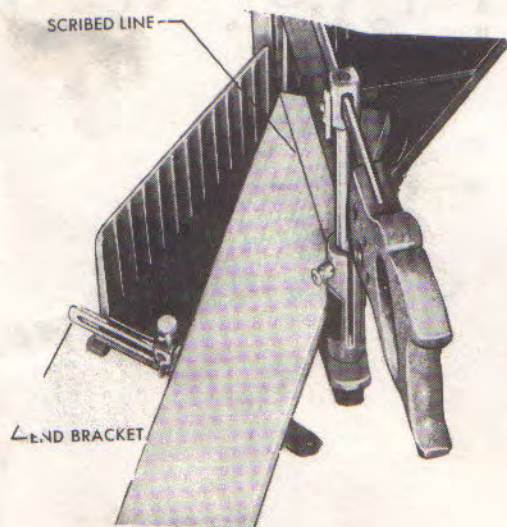
End Brackets which are held by Knurled Screws are provided on each end of the Bed. An Elongated Slot limits its travel. A Bent Lug on the top of the Bracket is used for a work stop. Additional forward adjustment is obtained by turning Bracket end for end. Sawing crown moulding is one of the many useful operations employing the End Brackets in this position. The Bent Lugs provide a means for holding the moulding against the Bed Plates and Backs.



### LENGTH GAGE

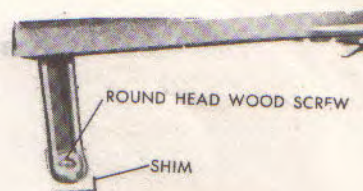
A reversible and adjustable Length Gage is provided. A Knurled Screw on the End Bracket holds this long bent rod.

The Length Gage is a stop for sawing a number of pieces to exactly the same length. By reversing or turning the Length Gage and shifting the End Bracket, very short or longer pieces can be cut.



### ACUTE ANGLES

Angles less than  $45^\circ$  can be cut with the Box. The Angle must first be scribed on the board. A Protractor is the most common device used. The Saw is swung to either left or right Mitre as required. The scribed line is placed directly beneath and in line with Saw Teeth. One End Bracket is adjusted so that the Bent Lug supports the board edge.



### ANCHORAGE

For best results the Mitre Box should be securely anchored or fastened to the work bench. Screw holes for this purpose are provided in the Legs.

The bottom of the Legs are ground flat at the factory. The bench should also be flat so that all Legs rest solidly on it. Should the Box rock, place a "Shim" of the right thickness under the proper leg. A box screwed down with a Leg needing a Shim will be warped. A warped Box will not cut accurately.

Do not fasten the Box to green lumber which may warp or shrink later.

### SAW

The Saw is the heart of the Mitre Box. The Saw purchased with Box is of high quality. No two Saws will cut the same even though new.

A Mitre Box purchased without Saw may or may not cut accurately, consequently it cannot be guaranteed. The Saw should be kept sharp and only a qualified expert should do the refiling and resetting. Reset Saw Stops after refiling.

For smooth accurate cuts, operate the Saw with moderate steady strokes. Allow only the weight of the Saw to furnish the necessary feed. Pressure on the Saw tends to throw it out of alignment.

Keep Saw in prime condition. When not in use, remove it from Box and hang in safe place. Saw should be oiled if not to be used for a prolonged period.

### LUMBER

This Mitre Box is a precision, hand operated Machine for cutting Angles in wood. It is intended for cutting clear straight lumber, free of knots and other defects.

Two adjacent sides of the stock to be cut must be absolutely straight and flat; their included angle exactly square or  $90^\circ$ . These two surfaces must contact both backs and Bed Plates of the Box. Hold stock securely while cut is made. Accurate cuts are made only on accurate stock. **DO NOT EXPECT ACCURATE CUTS ON WARPED OR CROOKED LUMBER.**

The same stock Edge must be against the Backs while all cuts are made. Never turn the work over, or end for end, but reverse the Angle of the Saw when necessary.

All the above conditions must be met, otherwise the result will be an inaccurate cut. Sawing through knots may sometimes be necessary, and this may cause the Saw to spring or bend.



**PARTS LIST FOR**  
**Millers Falls® "LANGDON ACME" MITRE BOXES**

No. 74 — 28 x 5 Saw  
No. 75 — 30 x 5 Saw  
No. 76 — 30 x 6 Saw

PART NO.	KEY NO.	DESCRIPTION
1	14537	Elevator Assembly (2)
2	5218	Bed
6	14557	Length Gauge
7	15060	Locking Lever Hex Nut
8	16304	Saw Stop (2)
9	16305	Saw Stop Screw (2)
10	16318	Gib Plug Screw (2)
11	16320	Depth Gauge Bent Washer (2)
12	16597	Locking Lever Screw
13	16838	Saw Guide Plugs (6)
14	16846	End Bracket Screw (3)
15	16847	Depth Gauge Screw (2)
16	16864	Locking Lever Screw
18	103922	Bottom Plate Screw (10)
20	16869	Leg Screw (4)
21	16870	Leg Nut (4)
22	16871	Locking Pin Bushing
23	16872	Locking Pin
24	16873	Locking Lever Bushing
25	16874	Locking Pin Bushing Check Nut
26	16876	Locking Lever Spring
28	16984	Knigbolt Spring Washer
29	25025	Depth Gauge (2)
30	25352	Clamp Lever
31	25359-S	Gib Assembly
32	25361	Locking Lever
33	31336	74 - 5" Saw Guide (2)
	31336	75 - 5" Saw Guide (2)
	31337	76 - 6" Saw Guide (2)
34	31347	End Bracket (2)
35	31355	L.H. Bottom Plate
36	31356	R.H. Bottom Plate
37	31414-01	Legs (2)
38	32654	Lever Sub Assembly 74
	32654	Lever Sub Assembly 75
	32655	Lever Sub Assembly 76
39	40022-04	Saw 74 28 x 5
	40022-07	Saw 75 30 x 5
	40022-08	Saw 76 30 x 6
40	104743	KingBolt
41	105080	Kingbolt Nut

